Installation, Operation, Maintenance, Inspection, and Repair of Tanks in Production Service

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Introduction

This standard is based on the accumulated knowledge and experience of owner/operators and manufacturers of storage tanks of various sizes and capacities. This standard provides guidelines to install (set, connect), operate, maintain, inspect, and repair a tank in the upstream segment of the petroleum industry. This standard is not to be interpreted as approving, recommending, or endorsing any specific design or as limiting the method of design or construction.

It is not the intent to modify operating facilities; however, it is intended that any new work, operation, maintenance, inspection, and repair meet these requirements. The user may modify, delete, or amplify sections of this standard, but reference to this standard shall not be made on the nameplates of, or certification for, tanks that do not fulfill the minimum requirements of this standard. More stringent requirements specified by the purchaser or furnished by the contractor are acceptable as mutually agreed upon by the purchaser and the contractor.

This standard is not intended to cover storage tanks that are to be erected in areas subject to regulations more stringent than the specifications in this standard or for midstream or downstream segments of the petroleum industry. When this standard is specified for such tanks, it should be followed insofar as it does not conflict with local requirements. The purchaser is responsible for specific state and federal jurisdictional requirements applicable to the design and construction of the tank. After revisions to this standard have been issued, they may be applied to tanks that are to be completed after the date of issue. The tank nameplate shall state the date of the edition of the standard and any revision and edition to which the tank has been designed and constructed. Each edition, revision, or addendum to this standard may be used beginning the date of issue on the cover page for that edition, revision, or addenda. Each edition, revision, or addenda to this standard becomes effective six months after the date of issuance for equipment that is certified as being constructed, tested, inspected maintained or repaired in accordance with this standard. During the six-month period between the date of issuance of the edition, revision or addenda and effective date, the purchaser and the manufacturer shall specify to which edition, revision, or addenda the equipment is to be constructed and inspected.

Installation, Operation, Maintenance, Inspection, and Repair of Tanks in Production Service

1 Scope

1.1 This standard provides the minimum requirements to install, operate, maintain, inspect, repair, and reconstruct both new and existing tanks used in petroleum production service in a manner that includes best practices for tank facility safety, security, and environmental protection.

1.2 Tanks in refineries, petrochemical plants, marketing bulk plants, and pipeline storage facilities operated by carriers are not within the scope of this standard.

1.3 This standard is intended primarily for application to tanks fabricated to API Specifications 12B, 12D, 12F, and 12P which are deployed in onshore production services; however, it may be applied to other tanks and services at the discretion of the owner/operator.

1.4 Annex G of this standard contains specific safety information applicable to tanks. For additional safety information, see other publications referenced within this standard.

1.5 The schematic drawings included in this standard are examples of some features described in the standard.

1.6 Lease automatic custody transfer (LACT) operations are covered in the API *Manual of Petroleum Measurement Standards*.

NOTE A bullet [•] at the beginning of a paragraph indicates that there is an expressed decision or action recommended or required to be addressed by or on behalf of the owner/operator. The purchaser's responsibility is not limited to these decisions or actions alone. When such decisions and actions are taken, they are to be specified in documents such as requisitions, change orders, data sheets, and drawings.

2 Normative References

The following referenced documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any addenda) applies.

API Specification 12B, *Bolted Tanks for Storage of Production Liquids*

API Specification 12D, *Field Welded Tanks for Storage of Production Liquids*

API Specification 12F, *Shop Welded Tanks for Storage of Production Liquids*

API Specification 12P, *Fiberglass Reinforced Plastic Tanks*

API Standard 650, *Welded Steel Tanks for Oil Storage*

API Standard 653, *Tank Inspection, Repair, Alteration and Reconstruction*

API Standard 2000, *Venting Atmospheric and Low-Pressure Storage Tanks*

API Recommended Practice 2003, *Protection against Ignitions Arising Out of Static, Lightning and Stray Currents*

API Standard 2015, *Requirements for Safe Entry and Cleaning of Petroleum Storage Tanks*

API *Manual of Petroleum Measurement Standards,* Chapter 2—Tank Calibration